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The water shortage crisis in Iraq Its risks, manifestations, and mechanisms for dealing with it

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MIRS 's policy Paper:

The water shortage crisis in Iraq: its risks, manifestations, and mechanisms for dealing with it



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Executive summary

The geographical location in which the Arab world is located in the Middle East and North Africa is known to be dry, with few rivers, and less rain and snowfall than the rest of the world. The temperature in it is high, in addition to the low level of awareness; the government's management of its water is not at the required level. Because of the presence of the Tigris and Euphrates rivers, Iraq is one of the richest countries in terms of water resources, but external and internal factors thirst Iraqis, as millions suffer from the lack of clean water, the temperature has risen and desertification has spread to large parts of the country. The income of the peasants decreased and they were forced to migrate from their lands. This academic paper raises questions about the reason for the lack of a view on the water management strategy and at the time the issue of regional cooperation and coordination and takes into account the public awareness program against the risks of drought and water shortage in Iraq.

First: the impact of climate change on water shortages

Climate change is a topic of great concern. According to the Stockholm International Institute, rising global temperatures and climate change is equal to the decrease in the water cycle. Most people see that the temperature of the earth temperature has risen by only one degree, they do not recognizing what scientists comprehend, and what tragedy in the field of water and climate is almost befalling the earth, and the effect of this change on the imbalance between rainfalls, floods and drought. The turbulent climate is a cause of disasters due to the lack of food and water shortages and the increase in poverty.¹ The UNICEF report on March 18, 2021 stated that more than 1.42 billion people, including 450 million children, live in a difficult situation where they do not have access to sufficient water for their daily needs. This means that 1 out of every 5 children suffers from a lack of water. The report depicts South Africa and South Asia with pictures and facts as dangerous poles. In Madagascar, a woman travels 14 kilometers to fetch water for her essential needs.²

¹ Sköld, M (2020). 5 reasons why the climate crisis is a water crisis. SIWI.

² UNICEF (2021): One in five children globally does not have enough water to meet their every day needs. See here: <https://www.unicef.org/press-releases/one-five-children-globally-does-not-have-enough-water-meet-their-everyday-needs#:~:text=NEW%20YORK%2C%2018%20March%202021,to%20meet%20their%20everyday%20needs>.



Water is a chemical compound made of two hydrogen atoms and one oxygen atom. Scientists agree that water is the origin of life on all planets. %71 of the Earth's face is covered with water, all living creatures need water, and it is the one that regulates life: water constitutes %60 of the adult human body, while the proportion of water in the body of an elephant 70% and in the potato plant 80% and in tomatoes 95%. A person can live without water for seven days. If a person loses 20% of his body water, he will die. Each person needs 2.4 liters of water per day.³ Because of the paramount importance of water, each country has a policy and laws for water management, and it also has water agreements and treaties regulating international navigation. And because the international agreements on water and rivers are not taken in consideration in Iraq and underdeveloped countries, and there is no general policy in this regard, the water issue has turned into a serious problem. While the problem of oil and gas pipelines have not been completely resolved, so the aspects of the water crisis in the region have clearly emerged.

Second: Water security concerns in Iraq

The population of the Middle East represents %6.3 of the world's population, but contains %1.4 of usable clean water. In the year 1955 only three Arab countries were suffering from a water crisis, but now there are 11 Arab countries suffering from a water crisis. Scientists expect that 7 other countries will suffer a water crisis by the year 2025.⁴

Chatham House, one of the most prestigious research and consulting centers in the world, says in a report entitled "Do not solve the water problem in Iraq using an old policy." This center argues that the duty of any prime minister in Iraq in the future should be to solve the water problem, because successive governments contributed to the problem. According to Chatham House, Iraq enjoyed a good water situation until 1970 due to the presence of the Tigris and Euphrates rivers, but after that the country lost about %40 of its water. This is partly due to the policies of

² C. Zeman, M. Rich & J. Rose (2006). World water resources: Trends, challenges, and solutions. Springer. 239

³ C. Zeman, M. Rich & J. Rose (2006). World water resources: Trends, challenges, and solutions. Springer. 239
WRC. University of Northern Iowa. P333-334.

⁴ Wessels. j (2009) Water Crisis in the Middle East: An Opportunity for New Forms of Water Governance and Peace. The Whitehead Journal of Diplomacy and International Relations. P: 131.



neighboring countries (especially Turkey) towards Iraq. In addition, the impact of high temperatures and low rates of rainfall on Iraq's water reserves, where about (8) billion cubic meters of water evaporates from Iraqi reservoirs.⁵

1.2. Turkey and Iran cut off water from Iraq

According to (Al Jazeera Research Center, 2018), the cutting off of water flows from the Tigris and Euphrates rivers by Turkey is the main factor in the shortage of running water in the Tigris and Euphrates rivers. The Tigris River originates in southeastern Turkey with a length of 1718 kilometers, and is considered the second longest river in southwest Asia. It runs within Syrian territory for a distance of 50 kilometers and enters Iraq at the village of Fishkhabour. Five tributaries flow into Iraq: the Khabur, the Great Zab, the Little Zab, the Azim, and the Diyala. It meets at Qurna with the Euphrates to create Shatt al-Arab.

The water shortage has greatly affected Iraq, and this is acknowledged by the Iraqi Minister of Water Resources (Mahdi Rashid Al-Hamdani 2021, who says: The water discharges coming from Turkey through the Tigris and Euphrates rivers decreased by %50. The tributaries and rivers such as the Darbandikhan Dam (in northern Iraq) have reached the zero limit. Also, the Zab River in the Kirkuk region decreased its water by %70. Al-Hamdani does not hide that Iran has changed the course of many important rivers that flow into Iraq, such as the Sirwan River, which Iran has constantly tried to drain, and that Iran has changed the course of rivers in the border areas of Diyala and Khanaqin into Iran.⁶

According to the research of the Mediterranean Institute for Regional Studies (www.mirs.co), Iraq is losing the bulk of its water resources. The discharges of water entering through the

⁵ Chathamhouse (2020) Same Old Politics Will Not Solve Iraq Water Crisis. See here:

<https://www.chathamhouse.org/2020/04/same-old-politics-will-not-solve-iraq-water-crisis>

⁶ العربي الجديد (٢٠٢١) العراق: تركيا خفضت منسوب نهري دجلة والفرات إلى النصف وإيران قطعت روافد مهمة.



Euphrates River from Turkey and Syria in the year 1933 amounted to 30 billion cubic meters, and these discharges amounted to 9.5 billion cubic meters in the year 2021. As for the Tigris River, its discharges were 20.5 billion cubic meters, and it decreased to 9.7 billion cubic meters in the year 2021, This is due to the construction of the Ilisu Dam by Turkey. As for Iran, it drained 5 Iraqi rivers. The rivers (Kanjani Jam, Kalal Badra, Jankilat, Karkh and Khobin have dried up. The drying up led to the migration of the residents of dozens of border villages, and a radical change took place in the bio and environment system in the region.⁷

1-1-2. Southeast Anatolia Project GAP

The Southeastern Anatolia Project (GAP-Güneydoğu Anadolu Projesi), one of the most important development projects in southern Anatolia, the idea of establishing the project dates back to the beginning of the founding of the Turkish Republic in the year 1930 and its objectives focus on the following: operating electric power plants, and building many dams on Euphrates River. According to successive Turkish governments, they always research and plan meticulously. And they thought about how to benefit from the waters of southern Anatolia (Euphrates) as a national and economic project. Where a foundation was started in 1986 to take care of water issues in Turkey, Where the Turkish government listened to the institution that proposed the project and established a special department for the project under the name "Southeastern Anatolia Development Department" and appointed as a project minister on behalf of the Minister of Southeast Anatolia Affairs.

The GAP project is considered one of the largest and most important projects adopted by the Turkish Republic in its history. The project depends on %80 on the waters of the Euphrates River and %20 on the waters of the Tigris River. It extends to several provinces (mostly Kurdish) such as: Batman, Diyarbakir, Sirte, Lux, Mardin, Gaziantep, Şanlıur, Edirne. It

⁷ العربي الجديد (٢٠١٥) الأمن المائي العربي [6 / 1]..إيران وداعش يدمران مياه العراق... بغداد- الامير العبيدي.



occupies an area %9.7 of the area of Turkey, and 20% of the agricultural land in Turkey, which amounts to 8.5 million hectares.⁸

A hectare is an international unit of area measurement, equal to 10,000 square meters, and equal to 4 acres of land. The Gab project occupies a large area of the Tigris and Euphrates basins, and this basin has been called since ancient times the Fertile Crescent. This basin is known as the cradle of civilization, and that civilization moved from here to other regions of the world. Since the seventies of the last century, this project has become a multifaceted regional project represented in irrigation, electricity generation, agriculture, hydropower projects, infrastructure for education, health, tourism, etc. The project now includes 22 water storage dams and 19 power plants, all of this at the expense of other countries. The project costs so far amounted to 32 billion dollars. The amount of electricity produced from the project is 7476 megawatts, which means that its annual energy production reaches 27 billion megawatts. The project consists of 13 main sections, 7 of which are located on the Euphrates River, and 6 of them are on the Tigris River. Its total area is 6.76 million acres of land.⁹

The GAP project participates in achieving the goals of ensuring social peace and economic growth with its departments: transportation, agriculture, irrigation, tourism, housing, job opportunities, health, education, and the promotion of the Turkish national spirit. The project was designed by Sharon Alozorov, an Israeli expert in the field of irrigation. The project was designed by the Israeli architect Yoshua Kali. The project contributes to reducing the water share of Iraq and Syria. Water will decrease in Syria by 40% and in Iraq by %75.¹⁰

It has a great impact on Arab national security, and it could become another card to limit the Arab countries, so that they need Israel and enter into treaties with it.

2-2. The role of the internal factor in the decline of Iraq's water:

⁸ سري الدين، عابدة العلي (1997) "العرب والفرات بين الاسرائيل و تركيا"، دار الأفاق الجديدة، بيروت، ص 197-198.

⁹ UNVER, O. H., 1997. Southeastern Anatolian Project (GAP): Water Resources Development, Vol. 13 (NO.4)

¹⁰ الرؤف يوسف الغول (2011)، أثر صعود حزب العدالة والتنمية التركي على العلاقات التركية- الاسرائيلية، جامعة الازهر - الغزة . ص يسري عبد 49-45.



Although Iraq has 8 lakes, it has been subjected to a severe decrease in its water and there is a fear that it will dry up completely. The most important of these lakes is Al-Razzaza Lake, which is the second largest lake in Iraq, located between the governorates of Anbar and Karbala. The area of the lake is 1800 square kilometers, and %90 of its area has dried up, and the aquatic life in it has been exposed to death.¹¹

Mesopotamia is thirsty:

The drought that hit the country made it difficult to identify most of its parts. Iraqi politicians and forces are preoccupied with establishing the pillars of their survival at the expense of the land and the Iraqi individual. Lake Sawa has a length of 4.47 kilometers and a width of 1.77 kilometers, and it is considered one of the tourist areas in Iraq, due to its proximity to archaeological areas, and it has its place in Iraqi culture, as it was mentioned in many poems and stories. Lake Sawa has now dried up and the lands near it are wasteland. This lake, which is thousands of years old, dates back to before the era of writing, and environmental activists have announced continuously since 2021 the news of its death. The cause of the lake's death is due to the unjust human intervention in nature and industry, geological factors, the increase in evaporation rate, the lack of rainfall, and the failure to take effective measures by the government.¹²

The lack of rain in Iraq and the external factors not only affect the rivers, but the drinking water and irrigation projects have become a target for extremist groups such as ISIS, just as ISIS targeted oil pipelines, it also targeted water dams as well. They destroyed the Fallujah dam in western Iraq in 2014. This caused the drying up of many agricultural and irrigation projects in the areas of Saqlawiya, Abu Ghraib, Radwaniyah, Latifiya and Alexandria.

Third: Water in Public International Law:

¹¹ <https://www.aljazeera.net/news> > ...ال

¹² العربي الجديد (٢٠٢١) بحيرة ساوة... عراقيون ينعون جزءاً من تاريخهم، بغداد- كرم سعدي.



Civilization took place wherever there was water. God Almighty said, "And We made everything from water. Don't they believe? - Surat Al-Anbiya - 30." That is why the international community has established laws related to water and developed its own definitions.

In short, countries have the right to dispose of their national waters also called national rivers, are originate within the country and end within the same country as the Thames in Britain, in agriculture, irrigation, navigation and industry. But rivers that are shared by two or more countries cross international waters, and each participating country must take into account the country that follows the river. The Vienna Conference of 1815 granted for the first time the right to international waters to all the participating nations. Then the laws developed. In 1997, the United Nations issued a law concerning the Tigris and Euphrates rivers, which Turkey must observe. In this law, states must observe justice and not harm their neighbors. Although Iraq and Turkey had signed pledges since 1947 on the Tigris and Euphrates rivers, in order not to harm the neighbors. After that, many treaties and bilateral meetings were held, but they were all without result.

A mechanism is put in place to solve the problems between the two countries before holding any negotiations. If they cannot reach a solution, they resort to international arbitration. After that, a complaint is registered with regional organizations, such as the Organization of Arab Cooperation, and then presented to the United Nations to punish the aggressor.

Fourth: The destructive role of humans in harming the earth

Neglect and disregard for the environment, pressing global issues for profit, the development of industry and capitalism, the intervention of capital and large banks in all parts of the earth, in addition to the race of large companies in order to produce more and raise more capital for a specific segment, all of these together have led to the ozone hole, air pollution and climate change. As a result, water shortages. These companies do not pay any tangible taxes in underdeveloped countries and do not pay attention to the damage they leave behind in the environment, mountains, valleys and lands they use. Desertification has become a global problem today. Where most countries of the world suffer from its effects, the lack of water and



moisture leads to the erosion of the surface layer of the soil of the earth, and this leads to the loss of plants, wild birds and other types of animals, as a result, these lands become unusable for agriculture and life. From here begins the rise in global food prices and the rise in poverty.

All scientific sources and international conferences that are held annually in developed countries have come to the fact that human activities and interventions have led to an increase in the proportion of carbon dioxide, and this has led to a rise in temperatures, a melting of the good at the poles and fluctuations in weather and climate.

This change in the climate is causing a change in the ecosystem of life and the diversity of life on Earth: however, the world is preoccupied with wars, conflicts and arms races, and not the reconstruction of nature and work to provide happiness and security for humans. When America spent 78 billion dollars for the Iraq war in 2003, it was possible to provide safe drinking water to all people on the globe in addition to providing health care, education and better services. Between the years 2016 - 2020, America sold weapons to 97 countries.

Fifth: The ambiguity of the future of water in Kurdistan

The Kurds were part of history and civilization. The cultivation of wheat and barley began in the village of Jarmo in Kurdistan. Water is part of the origin and identity of Kurdistan. In the Kurdish classic literature, both Faqyi Tiran and Ahmad Khani Al-Maa mixed with literature. Poet Goran mixed the beauty of the nature of Kurdistan and the waters of waterfalls with his poems. Kurdistan has a great water wealth, and this wealth is declining.

That is why the water problem in central and southern Iraq cannot be reduced. The Kurdistan Regional Government declared the year 2008 a year of drought, and to confront the problem, it spent allocated 120 million dollars. Sulaymaniyah governor, at the time, stole 5 billion dinars from the allocations for the year of drought,” according to the Financial Control Report 2009. The lack of drinking water and the lack of rainfall, the lack of fodder for animals, the drying up of streams and springs, the disappearance of birds and wild animals, the decrease in the water levels of lakes as well as the low levels of groundwater, are among the major problems facing Kurdistan at present and in the future.



In the villas built outside the cities of Kurdistan, artesian wells are drilled with a depth of 100 to 250 meters, and they do not reach the groundwater. The waters of the Dukan Dam decreased by 8 meters in the year 2021 compared to the year 2020. According to the General Directorate of Water and Sewage in the Kurdistan Region, the water level has decreased throughout Kurdistan. In order to solve this problem, the Kurdistan Regional Government has allocated 2.5 billion dinars. The government could have had a better water policy, and the money it spent could have been allocated to developing a stronger water and agricultural policy.

The amount of water used by the Kurdistan Region is very large compared to the number of its population and the absence of a large agricultural and industrial sector. 2 million cubic meters of water is distributed daily through 91 water projects and 5710 wells.¹³

Finally, the Kurdish people can live without natural gas and oil, but they cannot continue, and it is clear that their neighbors will not help them.

Recommendations:

This scientific paper presents a number of points as a mechanism for the solution, which are as follows:

First: As a first step, developing a program at the level of Iraq and the political parties for the issue of water, its trends and risks, and identifying solutions.

Second: Adopting a modern policy in water management. It's time to develop a water strategy.

Third: The new generation must pressure the water authorities in Iraq so that future generations do not become victims of personal and private relations with Turkey and Iran. Iraq has more than one card to use with Turkey so that the rivers do not dry up.

¹³ ناستی ناوی دووکان ههشت مەتر دابەزیوێه. (2021). <https://www.rudaw.net/sorani/kurdistan/2905202114>



Fourth: International organizations previously provided large sums of money to people who claimed to be working in the water field, but it appeared that these people were part of corruption and money laundering, and the Iraqi government knows them well, so severe punishment must be imposed on these people.

There is other money that was allocated to the water issue, but it has disappeared. The issue of water is of interest to everyone, and everyone must be made aware of the rational use of water by all available methods. This idea must be transformed into a strategy for education and awareness in educational centers, the press and religious circles.

Fifth: Water and electricity must be converted into a system, as is the case in European countries, so as not to exaggerate and increase their consumption and the government must hold violators accountable.

Sixth: As a proactive step for future environmental risks, plant seeds must be scattered in areas prone to desertification, especially those that have the ability to withstand drought.

Conclusion:

Based on the above, there are four main factors affecting the water shortage in Iraq, first, the neighboring countries, Turkey and Iran, as they cut off water from Kurdistan and Iraq and they are part of the water shortage problem. Second, the lack of rainfall due to climate change, high temperatures and evaporation from stored water bodies. Third: Wars and violence, especially ISIS, which blew up water stores. Fourth: The Government of Iraq is also an influential factor, as it does not have a modern policy regarding water security. At the same time, the Iraqis use water in a wasteful way, far from rational use.

Finally, if gas and oil are important sources of energy for factories and industries and the movement of vehicles, planes and ships in the world, then water is part of that energy that in the absence of it, life and the whole world will stop moving.

Man was created from water, earth and civilization, and the source of existence is water. With the decline of Iraq's waters, the drying of the marshes in southern Iraq, the change of the



environment and desertification, not only man is at risk of poverty, the results are not only the disappearance of agriculture and irrigation, but the neighborhoods and the entire ecosystem of the region will change, which was within thousands of years. In addition, the history and civilization of Iraq and the literary heritage of the country are subject to eternal disappearance.

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